

# Switch-Tek™ LP15 Capacitance Level Switch



Part No. LP15-1405

## Switch-Tek LP15 Technical Specifications

Model	LP15-1405
Price	
Weight (lb)	0.7
Insertion Length	2.6 in [67mm]
Orientation	Universal
Accuracy	±1mm [0.04 in] in water
Repeatability	±0.5 mm [0.02 in] in water
Dielectric Range	>20 constants
Conductive range	>100μΩ
Supply Voltage	12-36 VDC
Consumption	25mA maximum
Contact Type	(1) SPST relay
Contact Rating	60VA, 1A maximum (125VAC max)
Contact Output	Selectable NO / NC
Maint. Alarm	NPN transistor, 10mA maximum
Process Temp.	-40°F to 176°F [-40°C to 80°C]
Pressure	150psi [10bar] @ 25°C, derated @ 1.667 psi [0.113 bar] per °C above 25°C
Sensor Rating	NEMA 6 (IP68)
Sensor Material	PP (polypropylene)
Cable Jacket Material	PP (polypropylene)
Cable Type	4-conductor, #22AWG, shielded
Cable Length	10ft (3m)
Process Mount	3/4" NPT
Classification	General purpose
Compliance*	CE (EN61326, EN61010-1)

\* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at [www.AutomationDirect.com](http://www.AutomationDirect.com)

## Overview

The general purpose guard capacitance point level switch provides reliable high or low liquid level detection of water based conductive liquids with light coating, crystalizing or scaling characteristics with a 1A relay output. Media examples include copper sulfate and brine. The RF guard circuit eliminates the coating signal path between the active and reference electrodes. The submersible polypropylene (PP) liquid level sensor is universally mounted through non-metallic tank walls or inside the tank as a high level or low level alarm.

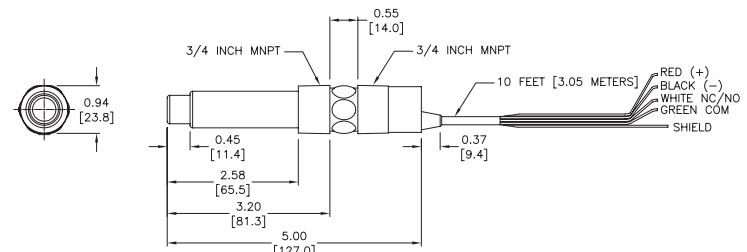
## Features

- Guard circuit optimized performance in coating type media
- Submersible polypropylene (PP) sensor body and cable for corrosive liquids
- 60VA relay selectable NO or NC via power supply wiring polarity
- Compatible with Switch-Pak installation fittings
- Ideal for side wall or top mount
- Ideal for coating liquids
- Great for waste water applications
- Made in the USA



## Dimensions

inches [mm]



Part No. LP15-1405

See our website [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete Engineering drawings.

## Compatible Products

Switch-Pro™  
Remote Level Controllers



LCXX

Switch-Pro™  
Junction Box



LC06-1001

Switch-Pak™  
Installation Fittings



LM45-1001-12



LM45-7001-0000

See the Switch-Pro® LCXX and Accessories pages at the end of the section for further details and pricing.

# Switch-Pro™ Remote Level Controllers



Part No. LC40-1001



Part No. LC41-1001



Part No. LC42-1001

## Overview

CSA approved, the Switch-Pro general purpose level controllers are offered in three configurations for alarms, pump and valve control. The LC40 accepts one level sensor input and provides one 10A relay for high level or low level alarm. The LC41 accepts two level sensor inputs and provides one latching 10A relay for automatic fill or empty control. The LC42 accepts three level sensor inputs with one latching 10A relay output for automatic fill or empty control, and a second non-latching 10A relay for high level or low level alarm.

## Features

- Fail-safe relay control of pumps or valves with 0-60 second delay
- Easy setup with LED indicators for sensor, power and relay status
- 35mm DIN rail mount or panel mount polypropylene (PP) enclosure with removable terminal strips
- Invert switch changes relay state from NO to NC without rewiring
- Mounts easily in control panel
- Connects to any Flowline level switch
- Interfaces directly with any horn, buzzer, valve, etc...
- Use LC41, LC42 version for automatic fill/empty operations
- Made in the USA



### Switch-Pro LC Series Technical Specifications

Model	LC40-1001	LC41-1001	LC42-1001
Price			
Weight (lb)	1.9	1.9	1.9
Supply Voltage	120VAC @ 50-60 Hz (can be field configured for 240VAC)		
Consumption	5W maximum		
Sensor Inputs	(1) two wire level switch	(2) two wire level switches	(3) two wire level switches
Sensor Supply	13.5 VDC @ 27mA		
LED Indication	Sensor (green), power (green) & relay (red)		
Contact Type	(1) SPDT relay (non-latching)	(1) SPDT relay (latching)	(2) SPDT relays, (one non-latching, one latching)
Contact Rating	250VAC @ 10A		
Contact Output	Selectable NO / NC		
Contact Latch	N/A	Selectable ON / OFF	Selectable ON / OFF
Contact Delay	0-60 seconds		
Ambient Temperature	-40°F to 158°F [-40°C to 70°C]		
Enclosure Mounting	35mm DIN rail or thru-hole panel mount		
Enclosure Material	PP (polypropylene), UL94VO		
Classification	General purpose		
Compliance*	CE (EN61326, EN61010-1); CSA LR 79326		

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# Switch-Pro™ Remote Level Controllers

## Wiring

**LC40 series:** 1 sensor input, 1 relay output.

**Typical Application:**

High level or low level alarm



**LC41 series:** 2 sensor inputs, 1 relay output. The relay included is a latching relay.

**Typical Application:**

Automatic fill or empty



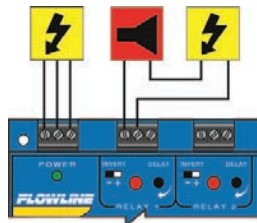
**LC42 series:** 3 sensor input, 2 relay outputs. One relay is latching and the other is a single input relay.

**Typical Application:**

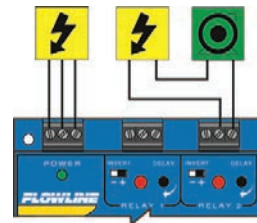
Automatic fill or empty with high level or low level alarm



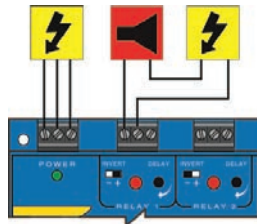
**Low Level Alarm Output Wiring Example (One level sensor input required):**



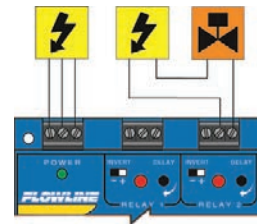
**Automatic Fill Output Wiring Example (Two level sensor inputs required):**



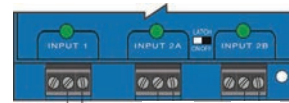
**High Level Alarm Output Wiring Example (One level sensor input required):**



**Automatic Empty Output Wiring Example (Two level sensor inputs required):**



**Level Sensor Input Wiring Example:**



Black  
Red

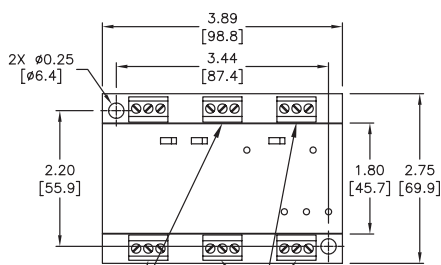
- LZ12
- LU10
- LP15
- LV10\*

LV10 series can be wired using the White and Black wires for NO operations or the Red and Black wires for NC operations.

## Dimensions

inches [mm]

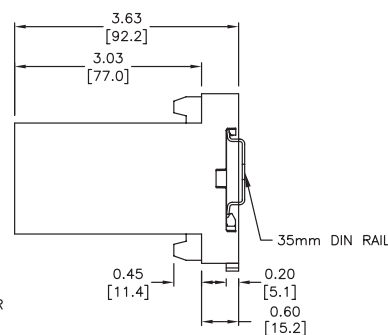
MODEL LC42



TERMINAL BLOCKS N/A FOR LC41 MODELS

TERMINAL BLOCKS N/A FOR LC40 MODELS

**Symbol Key:**



See our website [www.flowline.com](#) for complete Engineering drawings.





## Compatible Products

### ProSense Float Level Switches



### Switch-Tek™ Level Switch Sensors



Level Sensor Accessories					
Part No.	Item Photo	Description	Quantity	Weight (lb)	Price
LM45-1001-12		Flowline Switch-Pak level sensor extension installation fitting, polypropylene (PP) construction, 12 inch insertion length, 2 inch NPT male process connection, 3/4 inch NPT female sensor threads, 3/4 inch NPT male electrical junction box threads	1	1.1	
LM45-7001-0000		Flowline Switch-Pak level sensor extension installation fitting kit, polyvinyl chloride (PVC) construction, includes (1) fitting with 2 inch NPT male process connection, 3/4 inch NPT male electrical junction box threads and 3/4 inch PVC pipe socket; (1) fitting with 3/4 inch NPT female sensor threads and 3/4 inch female PVC pipe socket. Purchase 3/4 inch schedule 40 PVC pipe separately, cut to desired length and solvent weld to fittings in this kit.	1	0.7	
LC06-1001		Flowline Switch-Pro compact electrical junction box, polypropylene (PP) construction, screw cover with O-ring gasket, NEMA 4X rated, 3/4 inch NPT female mounting threads with 300 degree swivel base, 1/2 inch NPT female conduit entrance, removable 6-pole terminal strip	1	0.7	
LM90-1001		Cable gland, 1/2 inch NPT male thread, Buna N sealing gland accommodates a cable diameter range of 0.180 to 0.400 inches (4.6 to 10.2 mm), nylon housing, IP68 protection level	1	0.4	

## Accessory Field Assembly Example



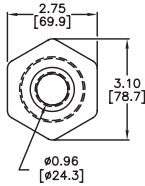
Order the following parts for field assembly: (1)  
 LC06-1001 - Junction box  
 (1) LM90-1001 - Cable gland  
 (1) LU10 Series ultrasonic level switch

# Level Switch Accessory Drawings

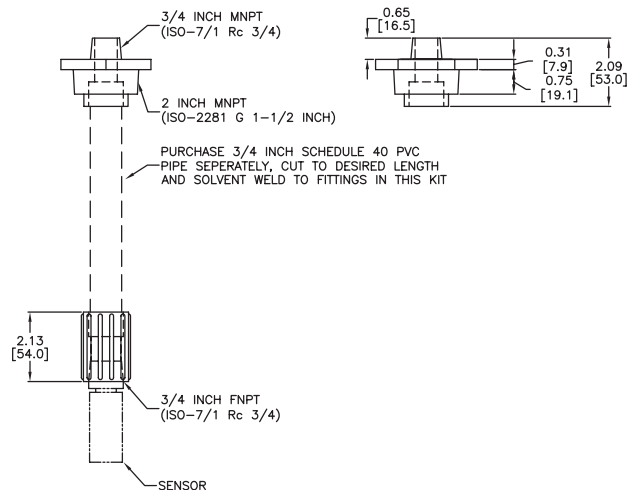
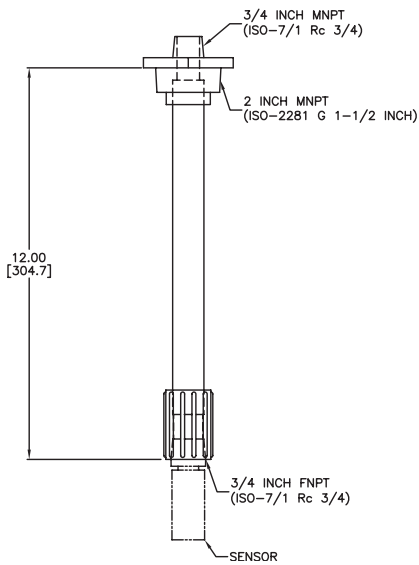
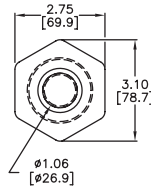
## Dimensions

inches [mm]

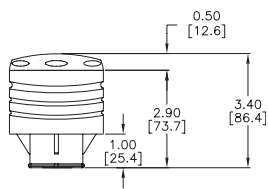
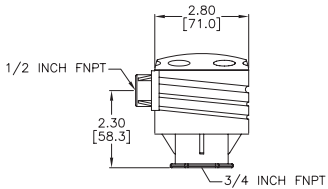
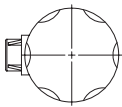
### LM45-1001-12



### LM45-7001-0000



### LC06-1001



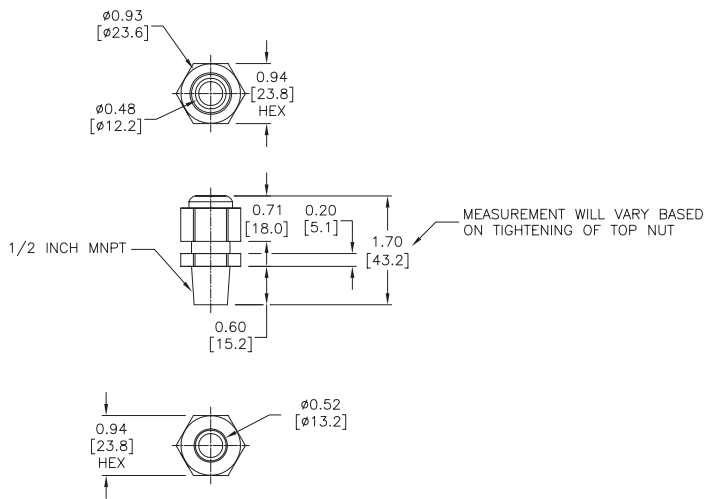
See our website [www.flowline.com](#) for complete Engineering drawings.

# Level Switch Accessory Drawings

## Dimensions

inches [mm]

### LM90-1001



See our website [\\_\\_\\_\\_\\_](#) for complete Engineering drawings.